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The All-British Trans-Pacific Cable.

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THE ALL-BRITISH TRANS-PACIFIC CABLE.

Now that a Commission has been appointed, not to consider the advisability of a cable across the Pacific, but to determine the best means of carrying out the project, a long-delayed scheme is evidently at last on the point of realisation. In these days, when no mercantile business can be conducted on a large scale without a cheap and efficient means of telegraphic communication, it seems almost incredible that two large English-speaking communities, such as Canada and Australasia, separated by only 90° of longitude, should still be obliged to send their messages round the other 270° through various foreign nationalities, instead of being in direct communication by a British cable across the Pacific. A glance at the history of the project explains why its realisation has been so long deferred.

The originator of the scheme for the first Atlantic cable was also the first to propose a trans-Pacific cable. Mr F. N. Gisborne, Superintendent of the Telegraphs of Canada, who died in 1892, projected in the early "seventies" a cable to Japan *via* Honolulu and the Bonin Islands. This line was chosen as being shorter than the line diagonally across the Pacific to Australia. In 1874 the *Tuscarora* of the United States Navy surveyed the route. The bottom was found to be uniform and not too deep, and the late Cyrus W. Field, whose name is so prominently connected with the first Atlantic cable, having obtained a landing concession from the Government of the Sandwich Islands, paid a visit to England in 1879 with a

view to the realisation of the project.

About this time Mr Sandford Fleming, C.M.G., who has worked harder than any one in connection with the scheme, and may at last hope to see it carried out, was busy, as Engineer-in-Chief, constructing the Canadian-Pacific Railway. Seeing that this line, in conjunction with a Pacific cable, would form a valuable alternative telegraphic route to Asia, he requested Mr Gisborne to report on the matter. Mr Gisborne recommended a line to Japan *via* the Aleutian Islands, which he estimated would cost £800,000 for the two sections of 1650 miles each. No private company, however, came forward with the capital to lay either this or the United States cable *via* Honolulu and Bonin, and the scheme fell through.

Two or three years later, the frequent interruption of telegraphic communication with the East by the existing lines once more brought the Pacific cable project to the front. During the bombardment of Alexandria in 1882 the land-lines connecting the Mediterranean cables with the Red Sea were cut, and from other causes between the years 1872 and 1883 there were no less than 540 days, or eighteen months, during which some portion of the cable route to Australia was unavailable for service. Canada accordingly renewed her efforts to obtain a cable along the alternative route, and in 1884 petitioned the Home Government to send a ship to make the necessary survey. On being told that the Admiralty had no ship to spare for the purpose, a Canadian vessel

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named the Alert was offered, but was not accepted. Finally, Canada proposed to pay half the expenses of the survey, but even this offer was refused by the Liberal Government then in power.

In 1887 the First Colonial Conference was held in London. In the previous year the Canadian Pacific Railway had been completed, and in a letter to her Majesty's Government the High Commissioner for Canada reopened the question of telegraphic communication to Australia by that route. It was doubtless this letter which induced the Colonial Secretary, the Right Hon. H. E. Stanhope, in the invitation to the Conference, which he addressed to the different Colonies, to mention improved telegraphic communication as one of the leading subjects for discussion.

In his statement to the Conference Mr Sandford Fleming, who was present as one of the Canadian delegates, gave his reasons for the importance of a Pacific cable, and combated the adverse criticism of the late Sir (then Mr) John Pender, who represented the companies owning the existing telegraph routes to Australasia. Mr Sandford Fleming pointed out that the coral-reefs, which Mr Pender represented as forming such a difficulty, lay in well-defined groups, which could easily be avoided. The ocean expanses between them contained wide and uniform depressions very suitable for a cable. Finally, the existing tariff of 9s. 4d. per word to Australia, instead of 3s. 3d. by the proposed Pacific route, was alone sufficient reason for breaking up the cable monopoly to the East, even if the alternative route were not pronounced to be a necessity from an imperial point of view.

Although the Postmaster-Gen-

eral acknowledged that it was impossible to recognise the monopoly which Mr Pender claimed, he declared that her Majesty's Government could not, by laying a Pacific cable, become a competitor with existing commercial enterprise. In consequence of this statement, the colonial delegates, realising that their Governments could not carry through the project unassisted by Great Britain, and relieved by Mr Pender's offer to substantially reduce the tariff on receiving a guarantee against half the loss incurred by the reduction, did not commit themselves to any more definite resolution than the following: "That the connection of Canada with Australasia by direct submarine telegraph across the Pacific is a project of high importance to the empire, and every doubt as to its practicability should without delay be set at rest by a thorough and exhaustive survey."

A result of this resolution was a letter signed by all the delegates and addressed to Sir Henry Holland (afterwards Lord Knutsford), who succeeded Mr Stanhope as Secretary of State for the Colonies, respectfully requesting that her Majesty's Government would cause the survey to be made. The Secretary replied to the effect that unless there was a prospect of the cable being laid, the Admiralty did not recommend despatching a vessel solely for the purpose. Correspondence was still kept up during the rest of the year by Mr Sandford Fleming on the subject, but nothing came of it. At the Postal Conference, however, held at Sydney in March 1888, the Governor of Victoria, in accordance with a resolution passed at it, telegraphed to Lord Knutsford, asking that the Admiralty should be moved to make an early survey for the Pacific cable, the cost of

the survey to be defrayed by Great Britain, Canada, and Australasia. In reply Lord Knutsford said that the Egeria was about to survey the islands between New Zealand and Vancouver, and could be instructed to take, in the course of her three years' work, soundings which would give some idea of the suitability of the sea-bottom for the laying of a cable. With the view of expediting the survey, Mr Sandford Fleming addressed a memorandum to Lord Stanley, Governor-General of Canada, who forwarded it to the Imperial Government, but without result.

A month or two later the total interruption of the two cables from Java to Port Darwin caused Australia to be cut off for ten days from telegraphic communication with the rest of the world. These two cables being in the vicinity of volcanic disturbances were liable to frequent rupture, and between 1880 and 1888 there had been no less than forty-one days of total interruption. The outcry which followed induced Sir John Pender to announce his intention of adding a third cable between Java and Australia. It was laid in the spring of 1890, but in July of the same year all three cables broke down; and as the rate to England still stood at 9s. 4d. per word instead of 3s. 3d. which the Pacific cable would afford, the agitation for the latter was once more renewed.

To do away with one of the arguments in favour of the rival route, Sir John Pender offered to reduce the rate to 4s. if Australasia would guarantee to the Eastern Extension Company half the loss to be incurred by the reduction. The Australian Colonies, including Tasmania, were already paying to this company an annual subsidy of £36,600, and Sir John Pender's

proposal made them liable to a further £60,000. This sum alone would pay the interest on the capital required for a Pacific cable; but the prospect of its construction still seemed far distant, and Australasia, in her desire for immediate relief, was compelled to accept the terms. In May 1891 the tariff was reduced from 9s. 4d. per word to 4s., but the loss incurred by the Colonies during the first year was found to be so heavy that in January 1893 it was raised to 4s. 9d. By this politic reduction the supporters of the Eastern Extension Company calculated that they had laid the ghost of the Pacific cable for at least a dozen years.

The fact of the shelving of the English scheme may have given a stimulus to the American one, for the Albatross and Thetis, U.S.N., were commissioned in 1891 and 1892 to survey the route between Honolulu and San Francisco. The report of their work showed an excellent bottom, barely exceeding in any part 3000 fathoms, but beyond furnishing useful information for the proposed British cable, nothing practical resulted from their survey.

About this time another competitor, the French Pacific Company, appeared on the scene, and in the early part of 1893 actually laid the first section of their cable from Queensland to New Caledonia, the Queensland and New South Wales Governments agreeing to pay a subsidy of £2000 each for a period of thirty years. As the cable was also subsidised by France, and completely under her control, the action of these two colonies was adversely criticised by the Home Government as well as by the rest of Australasia.

In the same year the Canadian-Australasian steamship service was inaugurated. The fact that Canada and Australia are in different hemispheres, and that the winter of the one is the summer of the other, pointed to a good prospect of trade in agricultural produce. In Canada during the winter butter was 1s. 6d. per lb., while in Australia at the same time it was only 5d. There would be an almost equally good market for potatoes, apples, and eggs. Impressed with this fact, the Canadian Government, as early as 1889, offered a subsidy of £25,000 for a fortnightly steamship service; but it was not till New South Wales was prepared to add another £10,000, and the service was made monthly, that any one could be induced to undertake the contract. The first steamer of the line, the *Miowera*, left Sydney for Vancouver in May 1893.

In the following September the Hon. (now Sir) Mackenzie Bowell, the Canadian Minister of Trade and Commerce, left Vancouver on a mission to Australia to promote the extension of trade which the new line made possible. But as no steamship service can thrive unless the ports at which it touches are in telegraphic communication, the subject of the Pacific cable was also to be discussed, and in this connection the Minister was accompanied by Mr Sandford Fleming. It was impossible in the short time at their disposal before the opening of the Canadian Parliament to make a tour of all the Australian colonies, but such as they visited evinced great willingness to co-operate both in the matter of trade and telegraphic communication. In order to obtain a definite expression of opinion from the whole of Australasia, it was proposed to hold a Conference at Ottawa in the following year.

Before this met, however, the Intercolonial Postal Conference, held at Wellington in March 1894, showed that the Australian colonies were in earnest with regard to the Pacific cable, by proposing to guarantee interest at 4 per cent on a capital not exceeding £1,800,000 for fourteen years to any private company undertaking to lay the cable and not to charge more than 3s. per word for telegrams to Great Britain.

The Ottawa Conference was opened in June of the same year, and the subject of the Pacific cable was made of primary importance. The majority of the Australian colonies — including Queensland and New South Wales, who had bound themselves to a subsidy for the French cable to New Caledonia — were strongly in favour of it. West Australia was not represented, and the delegate from South Australia, the Hon. Thomas Playford, although he declared that his Government would not oppose the scheme, criticised it very freely. His attitude in the matter is explained by the fact that South Australia, at great expense, constructed land-lines right across the continent from south to north in order to make a junction at Port Darwin with the first cable laid from Java. The land-lines had always proved a loss, and if the Pacific cable were laid, the annual deficit would be still further increased. Against loss from this cause, however, the other colonies were prepared to indemnify South Australia.

The first point that Mr Playford urged against the scheme was its impracticability, in support of which he quoted a statement made by Mr Patey at the Colonial Conference of 1887, in which he mentioned depths of

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12,000 fathoms to be found in the Pacific. Mr Patey afterwards withdrew the statement, admitting that he was in error; and indeed up to the present time the deepest sounding in the world does not exceed 5155 fathoms. The second objection was based on the hydrographer's report of the project in 1887. In this report it was stated that, from an Admiralty point of view, the sole use of such a cable would be communication with ships at Honolulu and Fiji,—an unimportant matter in times of peace, and during a war only important with regard to Fiji. From an imperial point of view it would be of little value, as in case of a breakdown occurring there would be no quick line of steamers to bridge across the broken section. In conclusion, it was argued that a single line of cable never paid commercially, that a very large subsidy would be required, and that if anything was to be done the existing route should be tripled.

It must be remembered that this report was written no less than seven years before the Ottawa Conference, since which date the circumstances affecting the case had undergone considerable alteration. With regard to the strategical advantage of an All-British route there can be no question; and as to the objection to a single line, even if it survived a declaration of war no more than a couple of days, the service it could render to the empire might represent many times its original value. It must also be remembered that the proposed cable is an *additional* line, and cannot but strengthen the present communication with Australia. In other words, a twofold communication with Australia already exists, and the laying of a Pacific cable triples

the telegraph service. The adverse character of the Post Office report in 1893 was felt by the Conference to be of greater weight. The total cost of the line according to their estimate was no less than £2,924,100. This was almost a prohibitive price, but the figures will be criticised later. Finally, there was the statement that no soundings had been taken between Honolulu and Vancouver, and that a survey was necessary before any decision could be arrived at.

The apparent necessity for a survey seems to have prevented the Conference from formulating any definite plan for the construction of the cable, and the following resolutions were the only result of their deliberations on the subject: "That immediate steps should be taken to provide telegraphic communication by cable, free from foreign control, between Canada and Australia; that the Imperial Government should be requested to make, at the earliest possible moment, a thorough survey of the proposed cable route, the expense to be borne equally by Great Britain, Canada, and Australasia; and that the Canadian Government be requested to ascertain the cost."

The report of the proceedings by the English representative, the Earl of Jersey, appeared in December 1894. The Report took a broad and liberal view of the situation; but with regard to the statement that the long stretches of water between Vancouver and the Sandwich Islands or Fanning Island were virtually unexplored, it is curious that the soundings of the Albatross and Thetis in 1891 and 1892, which were published in 1893, should have escaped the notice of the Conference. The discontinuance of the survey

by the Egeria, Lord Jersey remarked, evoked from the delegates an expression of great disappointment that the request of the Conference of 1887 had been so imperfectly met. In connection with the necessity for a survey, he mentioned the memorandum of Mr Alexander Siemens, which was received after the Conference had risen. In this memorandum Mr Siemens gave it as his opinion that no special survey was necessary, a view confirmed by the other cable-manufacturing companies, who subsequently sent in tenders for the work.

Coming to the cost of the cable, Lord Jersey quoted from Mr Sandford Fleming's memorandum, which put the whole sum roughly at £2,000,000. The interest on this capital at 3 per cent would be £60,000, the cost of working was estimated at £60,000, and the renewal fund at £32,000, representing an annual liability of £152,000. The earnings of the cable at 2s. across the Pacific—reducing the rate between Australia and England from 4s. 9d. to 3s. 3d.—would in 1898 (supposing the cable to be opened in 1897) be £99,465, and in 1904 £153,023, thus producing in seven years a balance of receipts and expenditure. There would, consequently, be little or no loss to the contributing or guaranteeing Governments. As to the question whether the cable should be laid as a national undertaking, or by a company with a subsidy or guarantee, the delegates were not unanimous; but in favour of the former it was urged that the expenses of promotion would be avoided, and the danger of amalgamation with existing companies precluded.

In conclusion, Lord Jersey said that with regard to the commercial value of the cable there was but

one opinion, and that it was evident the Colonies were most anxious to obtain it. He closed his Report with the following words:—

"Never, perhaps, in our empire's history has such an opportunity presented itself. The 'passionate sentiment' of Canada, as Sir John Thompson so well described it, and the hopeful attachment of the growing colonies of Australasia and the Cape, turn eagerly at this time to the mother-country for some sign of her regard for their development. Their leading statesmen appreciate the value of the connection with Great Britain, and the bulk of their population is loyal. It is within the power of Great Britain to settle the direction of their trade and the current of their sentiments for, it may be, generations. Such an opportunity may not soon recur, as the sands of time run down quickly. There is an impatience for action which would be tried by delay, and most sadly disappointed by indifference to the proposals which are now brought forward. A ready and generous consideration of them would be hailed with intense satisfaction."

The proceedings of the Ottawa Conference seem to have revived the project of the American cable to Honolulu, and in February 1895 the Senate voted £100,000 for the purpose. It was also rumoured that France, Russia, and Japan would unite with America in carrying the line across to Japan. Russia is anxious to secure a route which will avoid British cables, while France desires a connection between New Caledonia and Honolulu *via* her possession of Tahiti.

In July 1895 the Liberal Government, which had done little to assist the All-British scheme, was defeated, and when Mr Chamberlain became Secretary of State for the Colonies, he announced in a letter that he had taken that post with the object of seeing if something could not be

done to bring the self-governing colonies and ourselves closer together, and to develop the resources of the Crown colonies. The new Secretary did not lose any time in proving that he was in earnest. In November of the same year he received a deputation of Australian agent-generals on the subject of the Pacific cable. In reply to their representations, he declared that the Imperial Government was willing to assist in the matter, and proposed a Commission, to be formed of two delegates from Canada, Australasia, and Great Britain respectively. These delegates were selected at the beginning of last year, and the first meeting of the Conference took place on June 5. Unfortunately the sittings clashed with the Buda-Pesth Telegraphic Conference, at which the Australasian delegates were representing their Governments, and as it was too late for anything to be done in Parliament with regard to the project before the end of the session, the Conference was adjourned till November 11, when work was resumed.

The position as it now stands is a hopeful one for the immediate realisation of the All-British Pacific Cable scheme. The fact that France has already laid the Queensland-New Caledonia section, and that America, Russia, Hawaii, and Japan are ready to assist in laying the San Francisco-Honolulu section, makes it imperative for the British project to be taken up at once if the French scheme is not to be the first in the field. As recently as December 2 the Minister of Commerce announced in the French Chamber of Deputies that, with a view to maritime and national security, he would soon have to ask for a large sum towards telegraphic extension. It

is extremely improbable that there will be enough traffic to support two cables between Australia and North America for some years to come, and priority is consequently all-important. That the Americans are fully alive to the situation can be seen from a recent speech of Mr Chauncey M. Depew at a meeting of the New York Chamber of Commerce.

"No power can estimate," he said, "and no language can adequately state, the benefits of a cable. Commerce is revolutionised, communication between different parts of the earth is infinitely quickened, and intelligence is widely disseminated. People are benefited by cheaper living, better homes, higher thinking, broader education. Peace is promoted among nations. The value of a cable has been inestimable on the Atlantic side, and the same advantages will accrue to the Pacific coast of America, if a cable is laid with communications to China, Japan, Hawaii, and Australia."

The objections which were raised in past years against the British Pacific Cable scheme have been met one by one and overcome. The Eastern Telegraph Company, with its allied companies, has been active in raising these objections; and the late Sir John Pender, chairman of this group of companies, in the interest of his shareholders, opposed the project with all his well-known energy and ability, belying for once his claim to be the leader of telegraph extension throughout the world. At first Sir John Pender contended that the cable could not be laid at all; then, if laid, that it could not possibly pay; finally, that if it had to be laid, his company should have a voice in the construction. There is no doubt that the Eastern and Eastern Extension Companies have rendered great service to India and Australia; but they have not

neglected their own interests, and there is no reason why their monopoly should be extended in perpetuity. A scheme which secured their shareholders against actual loss by the laying of the Pacific cable would sufficiently meet the case.

It may not here be out of place to observe that in subsidies from the Australian Colonies, the Eastern Extension Company will have received by the year 1900 no less than £778,250, a sum exceeding the cost of two cables over the whole intervening distance from Asia to Australia. In 1893 the reserve fund of the company amounted to £633,686, after paying out of revenue the cost of new cables and cable-renewals to the extent of £1,160,685. These are large sums to be realised out of revenue, in addition to dividends equivalent to 9 per cent on the capital, before it had been watered.

The best of the various routes which have been proposed for the All-British Pacific Cable runs from Vancouver to Fanning Island, Fanning Island to Fiji, Fiji to Norfolk Island, and from Norfolk Island in two sections, one to New Zealand and the other to Australia. Fanning Island is of coral formation, and about ten miles long by four miles wide, with an excellent anchorage called Whaleman Bay, where ships of the largest class can lie. Its fertile soil produces bananas, figs, melons, and tomatoes in great abundance. In 1850 an Englishman, Captain Henry English, settled there with about a hundred and fifty natives, and placed himself under British protection. It has since been annexed to the Crown. The island was chosen as a landing-place for the cable on account of being the nearest British possession to Vancouver on the route to Australia.

The distance between Fanning Island and Vancouver is 3230 miles, which with 10 per cent for slack will represent a cable of about 3560 miles. The longest cable that has hitherto been made is the Jay Gould Atlantic cable of 1882, which is 2563 miles long, or nearly 1000 miles shorter. The length of a cable in itself adds very little to the difficulty of laying it from an engineering point of view, as it can be paid out in different sections, and if necessary from different ships, the section in one ship being spliced on to the buoyed end of a section laid by another.

But the length of a cable makes all the difference in the speed of working it, and on this its commercial value depends. The speed varies inversely as the square root of the length, so that a type of cable which gives 40 words a minute for 2000 miles would only give 10 words a minute for 4000 miles. For a given length the speed of a cable varies inversely as the product of its copper resistance and electrostatic capacity, so that in order to get a high speed it is necessary to have a low copper resistance and capacity. The copper resistance—or the resistance which the conductor offers to the electric current—can be decreased by increasing the thickness or weight of the copper, while the capacity can in like manner be decreased by increasing the thickness or weight of the insulating covering, which is generally of gutta-percha or india-rubber. As, however, a pound of insulator or dielectric is seven or eight times more expensive than a pound of copper, it follows that the most economical way to construct a long cable so as to give a good speed is to increase the weight of the conductor without increasing the

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weight of the insulator to an equal degree—taking care, of course, to be well within the limits of the necessary thickness for safety for the latter. Thus a core with a ratio of copper to dielectric of 3 to 2 or even 3 to 1 will give the same speed as a much larger core of equal weight, and will cost a great deal less. It was largely on this account that the estimate of the Post Office for the Pacific cable of £2,924,100 nearly doubled the lowest tender to the Dominion Government for the same route. For the Vancouver-Fanning Island section alone a core of 796 lb. per mile of copper to 532 lb. of dielectric would cost some £340,000 less than the enormous and unwieldy core of 940 lb. of copper to 940 lb. of dielectric which the Post Office proposed. The speed would be only 7 words per minute less—that is, 18 words instead of 25.

In connection with a long section, however, it must be remembered that the increase in the weight of the core, in order to make it yield the same speed as a short section, adds considerably to the weight of the cable when sheathed. Thus the Anglo-American Atlantic cable of 1894, with a core of 650 lb. per mile of copper to 400 lb. of dielectric—the heaviest core yet made—reached a total weight of 2·01 tons per mile, or nearly double the ordinary deep-sea type. This weight at a depth of 3000 fathoms entails a great strain on the cable when being heaved up to the surface for repairs; but the modern type of sheathing, in which each wire abuts the next one so as to form a continuous archway, which resists the lateral pressure caused by a longitudinal strain, greatly minimises any chance of the core being damaged through this cause. Moreover, the method of taping

and tarring each sheathing wire separately, which was first introduced by the Silvertown Company, is an almost complete safeguard against weakness arising from rust.

With regard to the nature of the ocean bed to be crossed between Vancouver and Fanning Island, the surveys of the *Albatross* and *Thetis* prove it to be for a large portion of the distance a level plateau barely exceeding in any part 3000 fathoms. It will, in consequence, be only necessary for the ships of the company contracting to lay the cable to survey carefully the landing-places at either end, and then to take a line of widely separated sounding along the intervening distance. The other sections present no special difficulties, and the line they take has already been fairly well surveyed.

It only remains for the Imperial Parliament to sanction the carrying out of a project which the Colonies have so much at heart. The liability incurred is insignificant. It consists of a third share of a capital of £1,600,000, which Mr Sandford Fleming calculates to be sufficient for the undertaking. The interest on £1,600,000 at $2\frac{1}{2}$ per cent, together with any unforeseen expenses, would not amount to more than £45,000, which, with £30,000 for working expenses, makes a total of £75,000. The surplus of revenue over expenditure for the first three years is estimated at £154,000. The contractor who lays the cable undertakes to keep it in repair for three years; but after that the cost of repairs will have to come out of revenue, so that in the tenth year the total surplus will be £742,000, and the whole £1,600,000 would be paid off in twenty years without costing the taxpayers a single penny. The

reduction of the tariff from 4s. 9d. to 3s. 3d. will effect in the first year a gross saving of £190,000 to Australasia and this country.

From a strategical point of view the All-British Pacific Cable route is of incalculable importance to the Empire. The present lines to India and Australia are the following:—

1. Lisbon, Gibraltar, Malta, Egypt, and Red Sea.
2. France, Italy, Greece, Egypt, and Red Sea.
3. Germany, Austria, Turkey, Russia, and Persia.
4. Germany, Austria, Turkey, Russia, and the Pacific Coast.
5. Lisbon, and the West and East Coast of Africa.

All these routes pass through foreign countries, and could at once be interrupted in case of war. The Russian journal, the '*Novœ Vremya*,' recently said: "In case of an armed conflict between this country and England, our first task would be to block England's communication with India and Australia." With good reason has Lord Wolseley condemned the policy of trusting to the present telegraphic routes to the East as nothing less than suicidal.

The wishes expressed by the Colonies at the two previous Colonial Conferences met with no response from this country. It is to be hoped that the labours of the third will not end in an equally disappointing manner. All who attended the Ottawa Conference, or read the report of its proceedings, cannot fail to have been struck by the deep feelings of regard which the delegates evinced for the mother-country. The "passionate sentiment of Canada," as Sir John Thompson, Premier of the Dominion and Pre-

sident of the Conference, termed it, was no idle hyperbole. "On this happy occasion," he said, "these delegates assemble after years of self-government in their countries, of greater progress and development than the colonies of any empire have ever seen in the past, not to consider the prospects of separation from the mother-country, but to plight our faith anew to each other as brethren, and to plight anew with the motherland that faith that has never yet been broken or tarnished." The hurricane of applause which greeted this avowal proved that the speaker had voiced the sentiments, not only of Canada, but of all the colonies assembled there.

The progress of Canada has been especially remarkable. It is not generally remembered that the first steamer to cross the Atlantic, the *Royal William*, was designed and built at Quebec by a Canadian. Almost thirty years ago the statesmen of the various provinces had the foresight to unite in a federal Government, an example which the Australian colonies soon hope to imitate. In 1886 the Canadian Pacific Railway was completed, a project which in its earlier days met with every discouragement, both from engineering experts, who declared that it could not be done, and from business men, who maintained that it would not pay for the grease of its wheels. This great work was carried out at the cost of £48,000,000, entailing an annual liability of £1,000,000 in perpetuity. Yet the expenditure was justified, as its revenue will prove.

Since then Canada has busied herself with this other great project, which at first met with the same discouragement. It is of

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happy augury for its successful issue that the man who carried through the railway scheme has been the chief promoter of the cable. After nearly twenty years devoted to the project, there is every prospect that Mr Sandford Fleming will see his second great public undertaking successfully inaugurated.

A well-known writer who resides in Canada has said, "Whenever the word empire is spoken, it creates a thrill in every British heart." The following extract from a speech by a prominent Canadian will show the sentiment of his countrymen in this connection. Speaking of Great Britain, he said:—

"Never since the world's history began has there been such an example of a country which has ex-

pendent blood and treasure to establish and strengthen her colonies, and then hand the heirship of them over to their inhabitants. To Canada Great Britain handed over the fortresses and Crown lands and all the money she had expended for a hundred years, without asking one penny in return; and quite recently she handed over to a mere handful the colony of Western Australia—a country which may be valued by millions. . . . My own impression is that there is not a man in Canada to-day who would not be prepared to spend his life and fortune to maintain the honour and dignity of this great empire."

Imperial Parliament, let us hope, will prove that England heartily reciprocates this generous sentiment, by readily accepting her share of an undertaking which will do more than anything else to strengthen the bonds uniting Great Britain and her colonies.